

CLAIMS

I claim:

1. A bridge that is configured to facilitate communications between a first network of Non-IP-compatible entities and a second network of IP-compatible entities, comprising:

- 5 a Non-IP to IP interface that is configured to facilitate communications between an application entity on the first network and a Web server on the second network, and
 an IP to Non-IP interface that is configured to facilitate communications between a Web browser on the second network and a Non-IP device entity on the first network.

- 10 2. The bridge as claimed in claim 1, wherein
 the Non-IP to IP interface includes:

 an IP Web client that is operably coupled to the second network, and is configured to appear as a client to the Web server;

 a Non-IP Web proxy that is operably coupled to the IP Web client and the first network, and is configured to make the IP Web client compliant with middleware that is associated with the Non-IP network; and

 a Non-IP Web proxy client that is operably coupled to the Non-IP Web proxy and the first network, and is configured to allow the application entity to access the Web server.

- 20 3. The bridge of claim 2, wherein

 the IP Web client is configured to selectively translate a first set of communications between the Web server and the first network, and to pass a second set of communications between the Web server and the first network without translation.

- 25 4. The bridge as claimed in claim 2, wherein

 the Non-IP Web proxy is configured to facilitate communications between the Web server and a Non-IP service.

5. A bridge as claimed in claim 2, wherein

the IP to Non-IP interface includes:

a Non-IP Web server that is operably coupled to the second network, and is configured to appear as an Internet server to the Web browser;

5 a Web service executor that is operably coupled to the Non-IP Web server and to the first network, and is configured to provide access to the Non-IP device entity;

a Web page generator that is operably coupled to the Non-IP Web server and to the first network, and is configured to generate web pages for presentation to the Web browser; and

10 a translation manager that is operably coupled to the Non-IP Web server, the Web service executor, and the Web page generator, and is configured to provide service-to-user-interface and message-to-methods translation services.

6. The bridge as claimed in claim 1, wherein

the IP to Non-IP interface includes:

a Non-IP Web server that is operably coupled to the second network, and is configured to appear as an Internet server to the Web browser;

a Web service executor that is operably coupled to the Non-IP Web server and to the first network, and is configured to provide access to the Non-IP device entity;

20 a Web page generator that is operably coupled to the Non-IP Web server and to the first network, and is configured to generate web pages for presentation to the Web browser; and

a translation manager that is operably coupled to the Non-IP Web server, the Web service executor, and the Web page generator, and is configured to provide service-to-user-interface and message-to-methods translation services.

7. The bridge of claim 6, wherein

the Non-IP Web server is configured to selectively translate a first set of communications between the Web browser and the first network, and to pass a second set of communications between the Web browser and the first network without translation.

8. A Non-IP network comprising

at least one Non-IP-compatible device, and
a bridge that includes:

a Non-IP to IP interface that is configured to facilitate communications between

5 an application entity on the Non-IP network and a Web server on an IP network, and

an IP to Non-IP interface that is configured to facilitate communications between
a Web browser on the IP network and the at least one Non-IP-compatible device on the Non-IP
network.

10 9. The Non-IP network as claimed in claim 8, wherein

the Non-IP to IP interface includes:

an IP Web client that is operably coupled to the IP network, and is configured to
appear as a client to the Web server;

5 a Non-IP Web proxy that is operably coupled to the IP Web client and the Non-IP
network, and is configured to make the IP Web client compliant with middleware that is
associated with the Non-IP network; and

a Non-IP Web proxy client that is operably coupled to the Non-IP Web proxy and
the Non-IP network, and is configured to allow the application entity to access the Web server.

20 10. The Non-IP network as claimed in claim 9, wherein

the IP Web client is configured to selectively translate a first set of communications
between the Web server and the Non-IP network, and to pass a second set of communications
between the Web server and the Non-IP network without translation.

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11. The Non-IP network as claimed in claim 8, wherein
the IP to Non-IP interface includes:

a Non-IP Web server that is operably coupled to the IP network, and is configured
to appear as an Internet server to the Web browser;

5 a Web service executor that is operably coupled to the Non-IP Web server and to
the Non-IP network, and is configured to provide access to the at least one Non-IP-compatible
device;

a Web page generator that is operably coupled to the Non-IP Web server and to
the Non-IP network, and is configured to generate web pages for presentation to the Web
10 browser; and

a translation manager that is operably coupled to the Non-IP Web server, to the
Web service executor, and to the Web page generator, and is configured to provide service-to-
user-interface and message-to-methods translation services.

12. The Non-IP network as claimed in claim 11, wherein

the Non-IP Web server is configured to selectively translate a first set of communications
between the Web browser and the Non-IP network, and to pass a second set of communications
between the Web browser and the Non-IP network without translation.

13. A method of enabling interactions between a Non-IP network and an IP network, comprising:

establishing an IP connection between a browser on the IP network and a server at a bridge element,

5 communicating a web page corresponding to the server to the browser,
receiving a user input from the browser to the server, based on the web page,
processing the user input to produce one or more commands related to an object on the
Non-IP network, and
communicating the one or more commands to the object.

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14. The method of claim 13, further including:

determining a status corresponding to the object on the Non-IP network,
creating a web page corresponding to a status of the object, and
communicating the web page from the server to the browser.

15. The method of claim 13, further including:

receiving an access request from a Non-IP-compatible application,
communicating the access request to a Web server on the IP network,
receiving a web page corresponding to the Web server, and
communicating messages corresponding to the web page to the Non-IP-compatible
application.

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